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and Brookeville Road, Maryland; also from Chevy Chase, Maryland, west to Glen Echo Junction, Maryland, on the Potomac River; thence south along the Conduit Road to Chain Bridge, D. C., and back to Chevy Chase, Maryland. Character of country traversed: woodland, 80 per cent; fields, 20 per cent. Total distance traveled, 12 miles. Time in field, 5:00 a. m. to 9:20 a. m.; and 12:50 p. m. to 5:40 p. m. Total number of species observed, 67; individuals, 401. A. M. Stimson.

16.—Patuxent River, from Laurel, Maryland, to Bowie, Maryland. Traveled by train from Langdon, D. C., to Laurel, Maryland, and from Bowie, Maryland, to Langdon, D. C., 29 miles; on foot, 15 miles, along the Patuxent River from Laurel to Bowie, Maryland. Character of country traversed: timbered river bottomland, 75 per cent; open fields and pastures, 25 per cent. Total distance traveled, 44 miles. Time in field, 5:00 a. m. to 7:00 p. m. Total number of species observed, 74; individuals, 934. E. G. Holt.

17.—East Falls Church, Virginia. Traveled on foot, 2 miles, about East Falls Church. Character of country traversed: woodland, 100 per cent. Total distance traveled, 2 miles. Time in field, 5:15 a. m. to 7:30 a. m. Total number of species observed, 43; individuals, 136. Mrs. I. N. Gabrielson.

The accompanying table gives in more graphic form the number of each species observed by each party; also the total number of each species observed by all the parties during the day, as well as the other totals given above.

SOME FLORIDA HERONS.

JOHN WILLIAMS, ST. MARKS, FLORIDA.

An account of breeding colonies of *Hydranassa tricolor ruficollis* (Louisiana Heron), and of *Florida carulea* (Little Blue Heron) may contain little information to one familiar with the breeding habits of these two species, but they may be of interest to those who have not had an opportunity to

see into such an assembly. While neither the Louisiana Heron nor the Little Blue were strictly speaking "plume" birds, yet because of their habits of nesting in colonies of considerable numbers thereby offering easy prey to the murderous demands of fashion, their numbers were greatly reduced during the years when plumes and other feather ornamentations were in vogue.

I had been familiar with these two species all over the region about St. Marks, along the rivers, at ponds and pools inland or along shore, away out in the open piney woods in the season of continued rains when hundreds of these birds may be seen walking or rather wading through grassy plains now inundated, but it was not until the early summer of 1912 that I came upon a nesting colony of either.

On May 23 of that year I collected a female Louisiana Heron from which a fully developed egg was taken. The bird was shot along the coast some eight or ten miles west of our lighthouse and near what is known as Shell Point beach. No opportunity for a search for the colony occurred until June 26, but numerous birds of the species were seen in the immediate vicinity prior to May 23. On the later named date about twenty pairs of Louisiana Herons were found about one mile from Shell Point on a small island about three-quarters of a mile off shore. The nests were placed in the lower branches of a narrow fringe of bushes that bordered one side of the island and were about as one might expect of a bird of this family. They were constructed almost if not exclusively of the common round salt marsh rush and were extremely frail. Several broken egg shells were found on the ground, some of which had doubtless been rolled out by force of wind or the careless handling of the old birds, as the nests were noticeably flat and afforded but slight security to the contents. At this date most of the nests contained eggs, mainly three in number, a few held two each, one contained six eggs, while one held two young birds seemingly about one week old, and another had three young, two of which were of about the same age

as those in the other nest, while the third youngster was but one-half the size of his companions. Fish Crows are plentiful and as a "Jackdaw" dearly loves his eggs in the shell, doubtless the small number of eggs in some nests might be readily accounted for. At this time it would have been fair to infer that the usual or normal clutch was three (3), but from later observations I would think four are more commonly laid as a full complement.

No other species of Heron was observed nesting with this colony or occurring in the immediate locality. I did not visit these birds again until June 6, 1915, when about forty pairs were found nesting in the same fringe of bushes in which the twenty pairs were located in 1912; while over one hundred pairs of the same species were found on an adjacent island nesting in a similar situation, except that the bushes were larger and in a more compact group.

At this date the contents of the nests were 1 to 4 eggs each; a few held very young birds. The existence of this colony in 1912 is not known. On May 7, 1917, this same locality was again visited and no birds were found nesting at either of the two sites noted, and as but two or three of the birds were to be seen drifting about in the vicinity it was surmised they had abandoned the neighborhood.

In preparing to leave the island in a row-boat, a landing was made across a small cove from the line of bushes that had formerly been used as nesting sites by these birds. On stepping ashore I was startled at seeing hundreds of Louisiana Herons spring up from the open, treeless marsh and immediately settle down again as I sank to cover. A few steps into the thick matted rushes and again the birds arose on hurried wingbeats almost directly upwards and drifted with much croaking farther down the island. A few steps more and I was in the midst of a nesting colony of these birds; every few yards a nest directly on the depressed rushes where a high tide had beaten down the tops of the tall rank growth. A hurried estimate of the number of these birds made approximately 500 individuals, but whether both

sexes were in the marsh I could not determine, and no accurate count of the nests was attempted, as they extended to a considerable distance in at least two directions—just how far was not discovered—and an enumeration under the conditions would have required more time than could be spared then, but enough was seen to convince me there were more than 150 nests, while there might have been two or three times that number. The nests contained from one to five eggs, but for the most part four, and as far as examined all were freshly laid. The nests were but little more than the scratching aside of the tangled rushes and a few broken pieces of the same laid crossing one another to aid in retaining the eggs from working down.

It would appear as if all the Louisiana Herons of the section had assembled in this nesting colony, as the two former sites were entirely abandoned and none other was found. The writer has never seen nor read of any of the Herons nesting in a similar situation, but it may not be as unusual as he supposes.

On taking my departure from the island the birds quickly commenced returning and seemingly all was again quiet before I had progressed many rods from shore. Why the birds left the bushes for such an open exposed location is a query; any extra high tide would have completely washed off the nests and it would seem that the contents of the nests, eggs or young, would be more exposed to Crows or "Jackdaws" on the open marsh than in the bushes. Possibly the available bushes would not have contained all of the nests of the greatly extended colony, but why were not the bushes also used to their capacity?

On June 3, 1916, I visited a nesting place of Little Blue Herons located four miles up the St. Marks river from our village and about a half-mile back from the river in a section of open piney woods known as Willis Bay, made up of a few scattered pines covering a tract of perhaps one and three-quarter miles by one mile and interspersed with numerous "Ty-Ty" ponds varying in size up to perhaps 150 yards in

diameter. In the ponds where the water was deepest and hence stood longest the central portions were open and free from bushes, while others were grown up solid with the "Ty-Ty," which I believe are a species of willow and grow extremely dense.

The Herons were occupying the bushes about one of these ponds and my notes of the trip relate that the pond was almost dry so far as surface water was to be seen.

The surrounding bushes extended perhaps 150 yards long by 60 to 75 yards wide and were 25 to 30 feet high down to not exceeding 10 or 15 feet at the east end. Fire had burned the outer border and the smaller bushes were difficult to penetrate on account of the close interlacing of the lower branches, and being killed by the fire were a formidable barrier to penetrate on a sultry day, with flies and mosquitoes swarming. Where the bushes were higher progress was easier by creeping under them.

Many young Herons were in the tops of the "Ty-Ty" and in the small pines at the outer edge of the clump. Younger birds were scattered over the bushes in the center where the nests were all located. Eight and ten nests were sometimes seen on a single bush. One nest held three eggs, several had single dead birds, other dead young were on the ground and two were seen hanging dead, caught as they had fallen, by the neck in slender forks of the branches. One young bird still unable to fly was walking about on the ground with a much smaller young one of the same species dangling from its mouth. The head of the small bird had been swallowed, bill foremost, and when uncoupled the skin of the head of the victim showed considerable progress toward digestion.

A single adult White Ibis was perched in the top of one of the bushes and eight or ten young Louisiana Herons were present. I estimated the number of Little Blue Herons at about 150, possibly not over 125, it being extremely difficult to get an accurate count of them as they traveled, sat or flew about. From 50 to 60 nests were seen and those still occupied contained from one to three young each. I had been

informed that many eggs had been taken from this colony early in the season to be eaten by workmen at a nearby saw-mill, which would account for the varied sizes of the young birds as the nesting birds usually lay repeatedly if the nests are broken up. A number of the oldest juveniles could fly a little, while many were just able to walk from the nest and a few were too small to travel at all. In walking over the bushes both the toes and bill were used in grasping the branches.

A few Vultures were in the vicinity and two Florida Grackles flew from the bushes. Four White-eyed Towhees were at the outer border of the "Ty-Ty" and a Pine-woods Sparrow sang near at hand. Only a little water remained in the open, central portion of this pond, but the mud and ooze under the bushes made progress uncomfortable.

But eight or ten adult Little Blue Herons were seen about the pond during a stay of over an hour. The young taken from the nest had stomachs full to distention, the contents being for the most part Fiddler crabs, that must have been carried three to five miles, together with some other aquatic animal matter. One had an entire dry leaf of myrtle with the Fiddlers. The young and adults uttered a few complaining guttural notes, but on the whole they were not clamorous.

The nests for the most part were small and frail; one or two were rather bulky and compact. Some nests were not exceeding five feet from the ground, while others were twelve to fifteen feet up.

On April 1, 1917, I again visited the "Ty-Ty" pond in Willis Bay and found 100 or more pairs of Little Blue Herons present, with four or five pairs of Louisiana Herons, one Green Heron and 40 to 50 White Ibises.

The Little Blues had nests scattered on the bushes overhanging the water in the center of the clump, some bushes containing four or five nests each, and these held from one to six eggs each. A few nests were still under construction. I saw no nest supposed to be of the Ibises, Louisiana or Green Herons at this time. The water was now fully two

feet deep in places and wading was treacherous and uncertain over logs, snags and roots, and I knew of the presence of at least one alligator and of *some* snakes.

The Ibises and Little Blue Herons flew up together when first alarmed and circled in a vast swarm. I saw no immature Little Blue Herons.

On April 4, 1917, the "Ty-Ty" pond was again explored. Waded through most of the pond. About 150 occupied and finished nests were observed. These contained from one to six eggs each. But one with six eggs, four was the most common number, and five frequently. Several held but three each.

Probably eight to ten pairs of Louisiana Herons were present and one of these was seen to carry a stick. At Shell point this species did not have fresh eggs until the seventh of May. White Ibises were still abundant and stood around on the bushes as if permanently located. A few nests from which Heron's eggs were removed on April 1st now contained one and two eggs each. Probably the former clutch had been incomplete.

As many as eight nests were in a single clump of "Ty-Ty," which made a diameter of about fifteen feet. But few nests were more than eight feet up, and many not exceeding five feet above the surface of the water. The nests varied greatly in size and form. Some a mere loose bunch of sticks through which eggs could be seen from below; others were a thick mass a foot or more of solid material. The average nest was about sixteen to eighteen inches across and six to eight inches in depth, with a slight central depression. In one case an egg had rolled from the nest and lodged in sticks at the side of the nest. Several eggs were on the ground beneath the nests. No Crows were seen in the vicinity.

On April 14, 1917, another visit was made to the "Ty-Ty" pond. I then estimated there were 150 pairs of the Little Blue Heron at the pond and about ten pairs of Louisiana Herons. Two or three nests were noted containing young just hatching. The old birds were noisy and quar-

relsome among themselves. When routed up they quickly settled back on the bushes.

Two males were seen pecking and striking at each other with a constant croaking and squawking. In one case a Little Blue and a Louisiana Heron held a brief combat, which appeared to be bloodless. But one pair of White Ibises were present when I arrived, and later four more came. A nest of the Ibis was found containing three eggs. None others seen on this visit. Twenty-six nests of Little Blue Herons counted in one clump of "Ty-Ty," which was about twenty-five feet in diameter and none of these over ten feet above the water. Several, eight or ten perhaps, immature Little Blues were flying about. One shot showed a crest and a line down the back and on wings, changing to smoky-gray. The bill of this bird, except about one-fourth its length at the tip, was an intense deep blue, legs sage green. It was a male and the sexual organs considerably enlarged, but I have no idea they breed in this plumage.

Several subsequent visits were made to this pond and the development of the young Herons was watched with interest. It was noted that when an adult came with food, if the young were still in the nest the old bird flew directly to the nest, but if the young were able to fly the adult circled and lit well up in a bush or small tree and a young bird immediately flew to the old one and was fed.

In the case of the colony of Louisiana Herons no other species associated, but with the Little Blues I found the Louisiana and Green Herons—only one pair of the latter—and the White Ibises.

It might be of interest to record that the Ibises did finally decide to build at this same pond. The nests, some thirty or more, were completed, being built largely of twigs plucked from the "Ty-Ty," with leaves attached and placed well up in the tops of the bushes. Fifteen or more contained eggs on June 1st, one to three eggs each, but on June 8th but one Ibis was found at the pond and every egg had been broken, the shells remaining for the most part in the nest.